Tide Water Red Cypress "The Wood Eternal"

The Manufacture and Uses of Cypress

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The Manufacture and Uses of Cypress.

The number of woods which are being manufactured into lumber, and which are offered to the prospective user of lumber is so very large these days that one frequently finds it difficult to determine which one of these woods is particularly adapted for the purpose intended. Some woods are chiefly adapted to furniture manufacture, others to building purposes, and others whose qualities fit them for use where lasting power is of importance. Many of the woods on the lumber market have qualities more or less in common with other woods which increases the difficulty in making a selection. It is, therefore, of prime importance that one should to the fullest possible extent know the advantages and disadvantages of the various woods, so that an intelligent selection can be made.

This is an age of specialization and special characteristics or qualities rendering one or more woods particularly adaptable to specific purposes make that wood more or less attractive to the prospective user. Cypress wood stands almost unique among the woods on the American lumber market, because of its very specific and definite qualities. It has been used for many years, and the evidences of its fitness for many purposes is overwhelmingly large as is testified to by users from all parts of the world.

THE CYPRESS TREE

The American bald cypress (*taxodium distichum*) known also as red, black, yellow or white cypress, is a tree of very ancient geologic lineage. The cypress and its relatives at one time covered the entire northern temperate zone of Europe and North America extending up into Greenland and almost to the northern tip of the Asiatic continent. In those days when the climate was much warmer in those northern countries the tree occupied the hills and valleys. In those early days the cypress was one of the trees commonly found on the shores of the Mediterranean Sea. With the advent of the Ice Age the cypress disappeared from many of its former haunts. It, however, left traces in the form of wood now found as fossil, or more frequently in the form of cones or leaves, so the geologist is in a position to trace back and determine with considerable accuracy in what regions the tree formerly flourished.

FELLING TREES IN A CYPRESS SWAMP

In the United States the tree formerly grew over practically the entire area, going as far south as Central Mexico. Remains of comparatively recent cypress forests are found in numerous swamps, particularly along the present coast line. Many of these have been discovered in Maryland and Virginia, where stumps 8 to 10 feet in diameter have been uncovered. Similar ancient cypress remains are found in southern Louisiana where they are uncovered in dredging operations.

At the present time cypress, unable to meet modern conditions among which the competition of more modern races is undoubtedly a factor, has been crowded from the hillsides into the swamps and is today distinctly a swamp tree growing along the Atlantic and Gulf Coasts and up the Mississippi Valley. In these swamps it grows associated with tupelo and other swamp species.

MANUFACTURE OF CYPRESS

It is into these swamps that the cypress lumberman has to penetrate and under difficulties unknown and frequently not appreciated by the northern millman, he gets out the cypress logs. The water in these swamps is frequently present the year round, although in many cases the swamps dry out during the summer period. In logging cypress, the trees are usually girdled during the latter part of the summer or fall in order that they may dry out during the winter period

A DREDGE-BOAT

to facilitate the process of floating. After they have stood in this girdled condition for some months the trees are cut down. The cutting off of a large cypress tree is probably as difficult an operation as one could imagine, owing to the fact that the trees usually have a very swollen base, which necessitates cutting it a considerable height above the ground. After the trees are cut they are taken to the saw-mill either by being rafted down the rivers or canals or by logging trains. They have to be pulled usually by means of small donkey engines, whose cables usually go out from one-half to three-quarters of a mile into the swamp. Anyone who has ever witnessed the operations in a swamp of a cypress lumberman, and has shared the privations of life in these regions realizes that the expense of this part of the operation must be very great and is consequently not surprised when the ultimate price is quoted to him.

Most of the trees which are cut are very old, some of them reaching the age of 1,500 to 2,000 years. In the older cypress brakes many of the trees are hollow

CYPRESS PULL-BOAT

necessitating the cutting off of a considerable portion of the trunk.

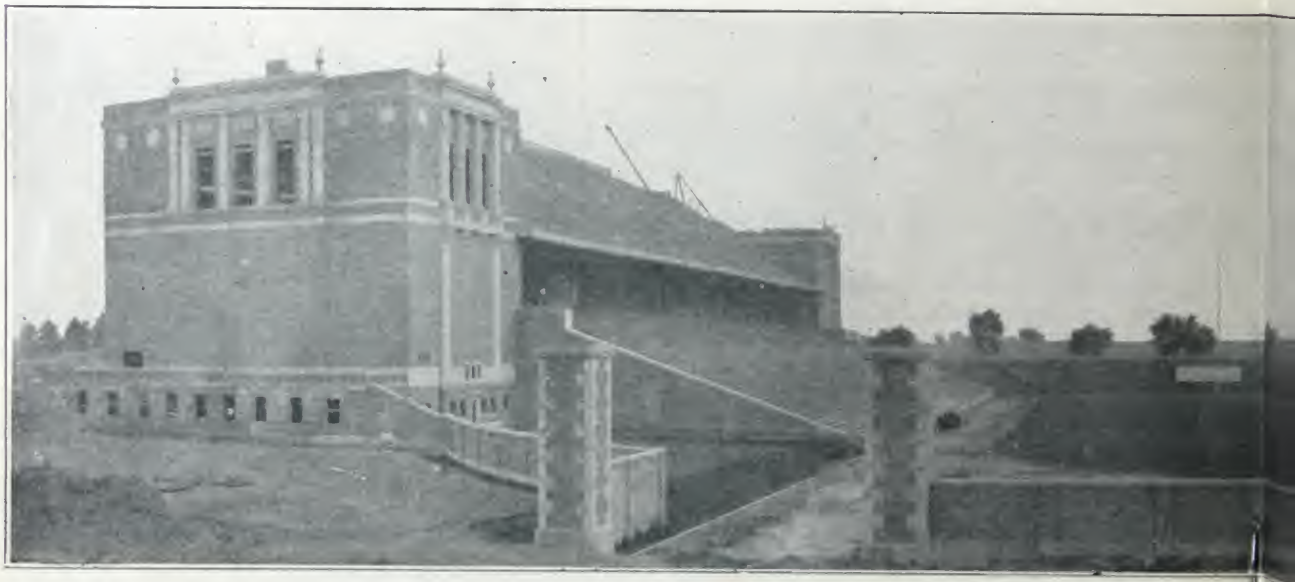
After the logs have been brought to the mill they are dumped into a pond and are carried from the pond into the mill in the usual manner and sawed into various grades of lumber. One element enters into the sawing of cypress logs not usually found in other woods; that is a very large percentage particularly of the older logs are affected with a peculiar disease known as "pecky" or "peggy" cypress. This "pecky" cypress is in reality very valuable but the presence of the disease in a large log means that sometimes half the log has to be manufactured into low-grade lumber or ties. One of the characteristics of the modern cypress mill

A SKIDDER IN OPERATION

is the manner in which every part of the cypress log is manufactured into something. A man recently came to one of the cypress mills with a proposition to purchase the slabs for making paper, and on being taken out to the burner he was very much surprised to find that practically all of the refuse available consisted of bark and small pieces of the wood eight to ten inches long, which in their turn were more or less defective. In other words, the method of manufacture is very close and even the small pieces are being taken care of. The cypress manufacturer practices conservation in a very high degree.

After the lumber is sawed it is dealt with in a manner characteristic to most woods, that is the higher grades are air dried, and then go through the planing

mill for further manufacture. It is a characteristic of most cypress mills that they use great care in the subsequent handling of their lumber after it is sawed. In order so assure equal drying and freedom from checking the end crossing strip on the side of the pile exposed to the sun is usually made of a wide board which is allowed to project out beyond the end of the planks so as to cast a shadow on the ends of the planks, thereby reducing the tendency to check. Cypress lumber is free from many of the ills which affect other woods. Aside from the pecky disease referred to (which is in reality not a defect for many uses) no disease of the wood is known. After it is once piled it is subject to little deterioration.



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TIDEWATER CY

CHARACTERISTICS OF CYPRESS WOOD

Cypress is a typical coniferous wood. It varies in color from light almost white, such as that found in its northern region in Arkansas, Tennessee and Missouri, to almost black such as is found in many of the cypress brakes in southern Louisiana and Florida. It is usually reddish yellow and sometimes grayish brown, with the sap wood considerably lighter in color than the heart wood. The terms white, red, black cypress, etc., are localized names given to cypress growing in different regions. From the standpoint of the user they have little practical significance because there is no method known to fully differentiate one from the other. The color seems to be an accident of the location in which the tree grows, although it is generally true that the darker colored wood is found in what are known as tide water swamps, that is, those located within 200 miles of salt water. The lighter colored wood comes from swamps to the northward. As will be indicated in discussing the lasting power of cypress color is of significance only when taken in connection with the percentage of heart wood found in the tree. Common usage has applied the term red cypress to the tide water form because of the preponderance of its red coloration. This tide water cypress is usually red or darker and has a very fine even grain, is frequently marked by various colored zones darker or lighter in color than the main portion of the tree which often times extend for great lengths throughout the trunk. Cypress wood is one of the lighter woods, weighing approximately 50 lbs. per cubic foot when green, although in some cases it is as high as 60 lbs. per cubic foot. Its specific gravity varies from 0.35 to 0.60, the average may be taken as 0.45 for dry wood, equivalent to 28½ lbs. per cubic foot, or 48 lbs. per cubic foot when green. These figures should be taken as broad averages because the trees will vary as to weight depending on the rate of growth and the region in which they are found. In drying, cypress shrinks with considerable uniformity. In rate it stands about between the heavy and light pines. On an average it may be stated that the shrinkage from absolutely green wood to absolutely air dried wood is about 8 per cent in volume. Its strength like its weight is intermediate between heavy and light pine. Tests made by the United States Forest Service indicate a strength of dry wood (9% moisture) as follows:

Under static bending the modulus of rupture..... 11,300 lbs.
Modulus of elasticity.....1,540,000 lbs.

Compression perpendicular to the grain	910	"
Shearing strength parallel to the grain..	1,080	"

Cypress wood has practically no odor or taste; nor does it impart any odor or taste to materials which come in contact therewith. This was very well illustrated when the manufacturers of cypress exhibited some barrels made of cypress some years ago in a competition for a prize given by the National Irrigation Congress for the best substitute for oak barrels to be used in shipping wine. Among the chief requisites for a barrel of this kind was that it should impart no color or taste to the liquid contained therein An exhaustive series of tests were made with cypress and other woods and it was found that of all the woods examined cypress was the only one that did not in any way change the liquid contained in the barrels. The prize was unanimously awarded to cypress. Cypress wood, in other words, is chemically inert, which is, of course, of very great advantage in the manufacture of all kinds of cisterns, tanks and other liquid containers. Cypress wood is very easy to work, that is, it is soft and has a very even grain and takes a beautiful finish.

One of the chief qualities of the cypress wood is its resistance to decay. In this respect there is practically no wood superior to cypress. It has certain antiseptic elements in the wood which protect it for long periods of time against fungus decay. Instances showing the great lasting power of cypress are so numerous that volumes might be written thereof. Attention is called, however, to the fact that this property of decay resistance is specifically the property of the heart wood. In its most marked form this decay resistance property is found in the tide water trees. The very slow growth makes a dense wood and it is this particular grade of cypress, that is, the cypress growing within 200 miles of salt water, which has the decay resistance of the highest degree.

Ordinarily wood destroying fungi do not decay cypress heart wood for many years. This remarkable property is made particularly striking under conditions of high humidity and high temperature such as is frequently found in greenhouses.

The remarkable decay resistance of cypress heart wood is shared by the so-called pecky cypress. To most people looking at a plank of pecky cypress with its numerous holes, the wood has the appearance of being in the last stages of decay. In reality the pecky cypress has very remarkable decay resistance qualities. It is for this reason that pecky cypress has been used for many years in the manufacture of railroad cross-ties, fence posts, sidewalks, planking, etc. Pecky cypress cross-ties are found in every railroad in the south. Planking of pecky cypress makes one of the chief sidewalk materials of the south. It is also used for sewer lining where in spite of alternate wet and dry conditions it serves perfectly. Where strength requirement is not material and lasting power requisite pecky cypress will be found of the greatest service. It has recently been used for interior work because of its peculiar appearance.

Summing up the characteristics of cypress wood it may be briefly stated that it is a soft wood with even grain, sometimes with beautiful figuring, which is easily worked, which shrinks very little, which has an average strength, imparts neither odor nor taste to materials coming in contact with it, checks and split

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R CYPRESS SEATS

CYPRESS SAWMILL

very little, and is noted for the great durability of its heart wood.

USES OF CYPRESS

Cypress has come to be known more or less as a specialized wood and it has very specialized purposes and for these it should find its greatest use. Among such uses is the manufacture of tanks, and for this purpose the grade known as tank stock is employed. A serviceable tank requires that the staves be of even grained wood and also that the staves be of great density and that they maintain their shape and size under variable conditions. The tank wood must furthermore impart no taste or odor to the liquid contained therein. The wood should also be as light as possible. That cypress wood possesses these various requirements in an unusual degree has already been pointed out. Experience has shown that where cypress has been used for tanks such as water tanks, tanks for the manufacture of soaps, dyes, wines, filtration plant tanks, etc., it has lived up to its reputation. It forms one of the best materials for the manufacture of silos. flumes. irrigating tanks, fire tanks, water troughs, in fact, wherever liquids of any sort are used (except those having high corrosive effect), it will be found that cypress wood will answer the purpose to an unusual degree, and this largely because of its permanence of form and what may be called chemical inertness. The latter is of particular importance where liquids such as dyes, weak acids and alkali are the materials contained in the vats of tanks.

The second field where cypress is particularly adaptable is in house construction. This because of the long life of the wood when exposed to atmospheric conditions. It follows from this that cypress is of particular value for outside work, such as siding, porches, columns, shingles, foundation timbers, girders, rails and outside stairways, etc.

An old frame building was recently torn down in New Orleans, at Canal and North Liberty Streets, constructed of cypress something more than a century ago. It was used as a barracks and guardhouse by the Spaniards during their occupancy of New Orleans. Old buildings of cypress are scattered from one end of the south to the other and testify to the remarkable weather resistance of this wood. Cypress shingles have stood the test of time and when properly nailed there is no superior roofing material.

Cypress has been used extensively for interior work such as floorings, mouldings, sash and doors. When given the Sugi finish there is no more beautiful wood for panel purposes.

In the construction of greenhouses cypress is a most invaluable wood on account of its decay resistance. Not only are the rafters, roof, and girders constructed of this wood but also the benches. For sim-

A LOGGING RAILROAD

ilar reasons cold frames and other materials used by growers may well be constructed of cypress. On the farm, fence pickets, posts, water troughs, wells, silos, incubators, churns, beehives, barns, sheds and other buildings could be constructed of no better wood.

OLD PERIQUE HOUSE, LUTCHER, LA., ERECTED ABOUT 1750. CONSTRUCTED ENTIRELY OF CYPRESS

Among the notable uses of cypress in recent years has been the manufacture of out of-door furniture. Large manufacturers of artistic garden furniture have found that cypress is a most advantageous wood to use not only on account of its lasting power but due to the manner in which it takes the finish necessary to withstand out-of-door exposure. Not only is it used in the manufacture of garden chairs and tables, but for the frames of arbors, trellises and other forms of construction used in garden work.

Pecky cypress as already mentioned, has numerous uses, but in addition thereto much of it goes into the manufacture of crating, fencing, Byrkit lath, sheathing, and covering for steam pipes, boxes and veneer core.

Realizing that the best results from either wood can be obtained when the wood is properly manufactured from the trees of the best location, many manufacturers of cypress have adopted a system of trade marking or branding their lumber as a guarantee to the consumer that the lumber furnished conforms to the best practices, and can be relied upon to give the best service.

In summing up it may be said that taking into consideration all the qualities of cypress there is no wood, which when intelligently used so as to take advantage of its remarkable properties, will give as good a return as will cypress.

OLD LOUISIANA HOME OF JOSEPH JEFFERSON, BUILT OF TIDEWATER CYPRESS

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